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## HOSPITAL CONSTRUCTION.

BY FRANCIS H. BROWN, M.D., CAMBRIDGE.

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[THE following paper is based on a thesis, presented to the Medical Faculty of Harvard College. The thoughts contained in it were suggested by observations made at most of the hospitals of Boston and New York; by a year's residence at the Massachusetts General Hospital; and by the perusal of various works and articles, which the interest of this and allied subjects has recently called forth. In the collection of materials, the writer has availed himself freely of the knowledge of others, as exhibited in books and elsewhere. He trusts he has not failed in his intention of giving credit to all from whom he has drawn information. Entire originality in such a paper could hardly be expected. It has been suggested that some of the facts here collated might be found interesting at the present time, when more ample hospital accommodations, both civil and military, are being provided.]

The origin of hospitals is lost in the obscurity of the early ages of our era. The series of events which has led to their sanitary improvement is a matter of modern history. It is a subject which is of peculiar interest to our profession, and, if examined in all the minuteness of its melancholy detail, should be of interest to all.

The first hospitals are found in about the fourth century of the Christian era; but in those far back ages of the world, where history even becomes fable, and the early chronicles of the medical art are lost in the obscurity of romance—as far back as war and pestilence existed, and humanity, in hordes, fell before the Destroyer—so far may we look for the existence of these institutions. Hospitals for the relief of the sick are prëeminently characteristic of Christianity. The early Greeks and Romans make little or no mention of them. Xenophon, Cæsar and Polybius, the first of whom considered it necessary to provide physicians to attend his army, fail to speak of hospitals for the reception of the sick and wounded. The commentators on these authors would lead us to suppose that such were treated in their tents, on the field. The first hospital of importance which we find mentioned, is that of Cæsarea, A.D. 307, which was richly endowed by the Emperor Valens. They are spoken of as common at the time of the Council of Nice, A.D. 325. The hospitals of Chrysostom are next in the

order of history, and, by the ninth century, we find that Rome herself contained as many as twenty-four. It would seem strange that so important and universal a matter as the institution of hospitals should so long have escaped the pages of literature and science.

When we look into modern history, we are still more surprised that the advancing intelligence of the world, the cumulated experience of medical men in the past centuries in the treatment of the sick, in all kinds of buildings, have not brought this subject more prominently to view. It has been left to us, however, by long and bitter experience, by the sight of hosts of humanity swept away by no other means than those arising from the utter neglect of hygienic measures, thus *to learn* to look in the right direction to stay the slow, but steady and sure march to the grave.

The subject of hospital construction is *a specialty*, and requires much more careful study than has at any time been given to it. Houses, built for the common purposes of dwelling, can never be used to advantage as abodes for the sick. There are certain principles which should govern us in choosing the site for a hospital; certain details to be carried out in the architectural construction, to render it capable of accomplishing to the utmost the design for which it was intended. To advance these principles has been the object of many distinguished men of the profession; and, directly or indirectly, of numerous devoted philanthropists out of the profession, for the last hundred years. It is for their labors in this direction, we are led to look with admiration on the names of Howard, of Elizabeth Fry, and of Miss Dix; our attention, too, is called to the various articles and papers from many English surgeons, both in the service and out; still more recently, the fearful experience of their Crimean war has called forth various reports and other papers from the War Department; and, last of all, the work of Miss Nightingale.

No one, who has had experience in the method of administration of various hospitals, can fail to have observed the difference in the effect of remedies, and the duration and termination of the cases. To the superficial eye, the disease and the treatment are the sole objects of notice. It requires more time and experience to go beyond this, and observe in hospitals of various forms and methods of administration, that conditions arising out of these varieties exercise a powerful influence on the real state of the patient. Hospital statistics will not always be of importance. Different hospitals receive different classes of patients; incurable cases may be discharged from one hospital to swell the black list of another; in different hospitals, patients enter at different ages and at different stages of disease. "Careful observers are now generally convinced that the origin and spread of fever in a hospital, or the appearance and spread of hospital gangrene and pyæmia, are much better tests of the defective sanitary state of a hos-

pital than its mortality returns; still farther, to the experienced eye of a careful, observing nurse, the daily, I had almost said hourly changes which take place in patients, changes which rarely come under the cognizance of the periodical medical visitor, afford a still more important class of data, from which to judge of the general adaptation of a hospital for the reception and treatment of the sick. One insensibly allies together restlessness, languor, fever and general malaise, with closeness of wards, defective ventilation, defective structure, bad architectural and administrative arrangements, until it is impossible to resist the conviction that the sick are suffering from something quite other than the supposed disease."* Shall we wait till some great mortality from such fatal defects forces upon us the unwelcome truth—until some war or pestilence stocks our wards only a little more fully than now, and so bring out more apparently the frightful evils? Shall we not rather look a little closer, even now—every day and every hour—and see the same forces, more slowly and stealthily, but as steadily and surely operating?

I start with these principia—abundance of air; abundance of sunlight; simplicity of construction. These are the essentials; without these no hospital can exist and perform its proper function in the community; and under these heads may be included all the minutiæ of hospital construction.

A hospital should be so situated, as, at all times, to command a full and free amount of the purest air; so far beyond the limits of any city or densely populated place as to escape entirely its noise, dirt, confusion and other contaminations. The best locality would be some suburban village, which is high, airy and dry—preferably on rising land, certainly on a dry, porous soil, and by no means in the vicinity of any marsh or meadow, or of a cemetery. At the same time, it must be quickly accessible by some easy conveyance for the acutely sick and the wounded. It may be necessary to build in a city; let this never be done, however, unless under these conditions—the buildings never to be over two stories in height; and the situation to be one immediately contiguous to some large area as a breathing space. The hospital should, at the same time, occupy an entire square, and this be surrounded by wide streets. Unless the fundamental principles of hygiene be carried out, it is useless to erect a hospital. In hardly any institution is economy more lauded; it is *no* economy so to confine and fetter the bounds of such an establishment, as to defeat in the outset the very benefits which benevolence and munificence suggest. If the recovery of the sick is the object of the hospital, it is certainly impossible to accomplish that object under poor hygienic influences; and we cannot be surprised that the sick poor will much more readily seek admission to an institution where short recoveries are made.

* Nightingale—Notes on Hospitals, 1859, p. 3.

The best general plan is that of separate pavilions, placed either side by side, or end to end. The former plan is preferable, as it renders the whole work more compact, and diminishes the space to be passed over in going from one to the other.* The buildings should be so arranged as to form no angles one with another. It is a great mistake to suppose that, because buildings are erected round a court-yard, therefore they are airy enough. Every angle forms a cul-de-sac, with the evident effect of stagnating the air at that point. All such angles, therefore, are to be avoided.† The presence of large trees, too, in front of the windows should be foreseen and guarded against. All ground plans similar to those represented in figs. 1 and 2, and any modifications of these, should be carefully avoided. The simplest form of all is that represented in fig. 3. By such an arrangement as this, and with but one building, only four wards —equivalent to two pavilions— could be obtained. For small hospitals, indeed, of not more than one hundred to one hundred and twenty patients, such an arrangement would be very well. By adding cross wings at the ends of the main building, additional space might be obtained. This would, however, have the ill effect of a closed angle, which would be of less importance in proportion as the wings were shorter. Were it essential to have the building in the form of a hollow square, this might be safely accomplished by leaving the angles open, as is done in the Vincennes Military Hospital; though even this plan might be considered objectionable. The only proper method of enlarging the pavilion system to accommodate more than one hundred and twenty, would be to increase the number of buildings, extending them in a straight line; or to adopt the plan of Lariboisiere, at Paris. "In that

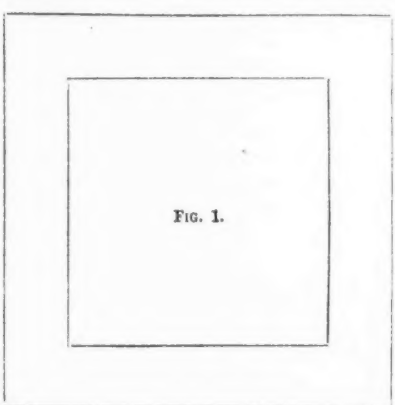

FIG. 1.

* Hospital accommodations in military service must of course be determined by the exigencies of the occasion under which they are required—flying hospitals, the tent, the hut, empty cottages, houses or churches, and the casemates of forts, according to circumstances—or, as in our present border warfare, the wounded may be conveyed back to the nearest large city, and all be subject to the judgment and decision of the medical staff. This article, however, refers only to *permanent* hospitals. I think the establishment of hospitals in the casemates of forts is to be deprecated. They are always damp, cold and close, and not at all suitable for rheumatism, dysentery, scurvy and other prevailing diseases of the service. If possible, the sick should occupy barracks in the centre of the enclosure.

† Quite in opposition to the view here expressed, is that of Dr. Hamilton, in his recent work on military surgery. "The quadrangular form, with an interior or court, is therefore the most objectionable, unless the quadrangle is composed of small, detached buildings. If not large, it may have the form of a square, but without the interior court. But for l rger establishments, a building with a single front and two short retiring wings is to be preferred. When to the main building are attached, at right angles to the extremities, retiring or salient wings, all sides are left exposed to the winds. The stellate form is equally advantageous." —(p. 92) While I agree heartily with his first sentence, the extracts from the remainder of the paragraph seem quite contrary to reason, and, in particular, a building in "the form of a square, but without the interior court," could have none but the poorest ventilation.

hospital, each block, containing one hundred and two sick, constitutes a separate hospital. There are six of these blocks, which are arranged parallel to each other on the opposite sides of a square, and there are four blocks, containing the administrative and other offices."* The number and size of the buildings and certain details in their construction must, of course, depend on the class and number of patients treated.

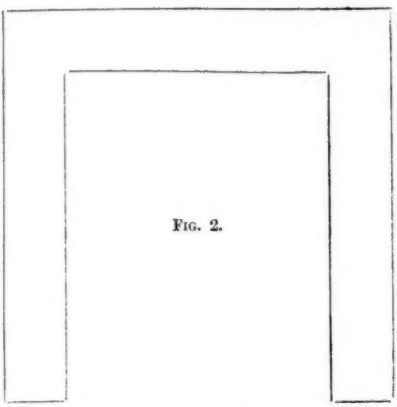

Fig. 2.

In any case where two or more pavilions are constructed, if arranged parallel to each other, the distance between the buildings should be at least twice the height of the side walls. If this plan is not adopted, both air and sunlight will be seriously interfered with. The grounds around should be laid out with graded walks, flowers, &c. The beneficial effects of such means on convalescents is incalculable.

Fig. 3.

Second only to fresh air, I consider sunlight. Except in a few cases, it is a mistaken idea that the direct rays of the sun should be shut out from the sick room. All hospital buildings should be so erected that as great a surface as possible may be presented to the sun. For this purpose, in our vicinity, the axis of the buildings should be as nearly north and south as possible, that the sun's rays may shine fully into the wards from sunrise to sunset. Let, then, the window space be large. We shall find it very easy to shut out the sunlight by curtains and blinds; we can never form a sunbeam.

Simplicity, without complication, is essential in an institution desired to be conducted with economy and advantage. Every room should open into the entry or hall connecting with all parts of the building. Every *needed* room should be provided—at the same time every unneeded room should be omitted. We must remember that every closet or corner represents a place to be cleaned and will require hands to do it with—as well as an easy receptacle for any articles which carelessness or slovenliness may render desirable to get out of sight. Florence Nightingale says,

* Builder, for Sept. 11, 1858.

"Every five minutes wasted upon cleaning what had better not have been cleaned, is something taken from and lost by the sick."*

The classes of patients to be admitted will of course depend on the character of the hospital. Every city of the size of Boston should have suitable institutions for the care of the following, viz.:—All accidents; acute diseases, other than contagious ones; midwifery; delirium tremens; convalescents; chronic diseases; non-paupers, but poor; contagious diseases; insane; and the cases occurring during epidemics. A good classification for a *general* hospital would be to receive all cases of accident, all acute diseases except contagious, and such cases of chronic disease as may be ameliorated by treatment. The other classes should be treated in appropriate places. It will, then, of course, depend on the class and number of patients treated, what buildings shall be erected. Under all circumstances, the following general rules should be adopted. The offices of the attendant and resident officers, the dispensary, &c., should always be in the centre of the establishment; they will thus be most easily accessible to the largest number in the shortest time. If any contagious or noisy diseases are treated, they should occupy the exterior buildings; while the middle buildings are occupied by those acutely sick and those requiring the most attention. The kitchen and laundry must, under no circumstances, be in or under any of the buildings occupied by the sick, but at a little distance in the rear. If any portions of the buildings are devoted to private wards, they should be such as are the quietest and most secluded, and at the same time easily accessible to friends visiting the patients. The dead-house and autopsy room should form no part of any of the inhabited buildings, but be situated in the rear. The wards should all be connected with the kitchen and the dead-house by an underground passage; and all parts with the offices at the centre by means of bells and speaking tubes. I think, too, that in all hospitals, certain portions should be devoted to convalescent wards, of which I will speak presently. The matter of covered exercise grounds needs but a bare mention here, as it will receive more full notice farther on.

[To be continued.]

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## BIOGRAPHICAL NOTICE OF PROF. WILLIAM TULLY, M.D.

By Henry Bronson, M.D., of New Haven.

William Tully was born at Saybrook Point, Conn., February 18, 1785. He was a descendant of John Tully, who came from England in 1647. His grandfather was an intelligent farmer. His parents, William and Eunice Tully, had but one child, the subject of this notice.

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* Nightingale, p. 10.

Young Tully manifested, from an early period, a taste for books, which his parents indulged. Till the spring of 1801, he was sent to the public free school of his district. He was then placed under the charge of the Rev. Frederick W. Hotchkiss, of his own parish, who instructed him, first in English studies, and afterwards in Latin and Greek, preparatory to college. In September, 1802, after an "exceedingly defective preparation" (to use his own words), he was admitted to the Freshman Class of Yale College, where he was graduated in September, 1806. Throughout his academic course, he was embarrassed by his want of knowledge of arithmetic and mathematics, these branches of study having been wholly neglected in his preliminary education. This early neglect, and the poor proficiency which he regarded as its consequence, he had occasion to deplore throughout his life.

For five months, beginning in November, 1806, Mr. Tully taught the Oyster River district school, Saybrook. In the spring of 1807, he began the study of medicine with Mason F. Cogswell, M.D., of Hartford. In October of the next year, he went to Dartmouth College, Hanover, N. H., and for three months attended the public medical lectures of the celebrated Nathan Smith, M.D., who taught Theory and Practice, Surgery, Materia Medica, Obstetrics and Chemistry. At the close of the term, he returned to Dr. Cogswell's office; but in October, 1809, went back to Hanover to attend a second course of lectures. At the close of the term, he studied, for a time, with Samuel Carter, M.D., of Saybrook; but in March, 1810, entered the office of Eli Ives, M.D., of New Haven. While with Dr. Ives, he gave particular attention to Botany, laying the foundation for a general and very accurate knowledge of that science. In the following October, he was examined at New Haven, and received a license from the President and Fellows of the Connecticut Medical Society to practise medicine and surgery. The honorary degree of M.D. was conferred on him by Yale College, in 1819.

After receiving his license, Dr. Tully taught a district school for five months in Saybrook; but in May, 1811, went by invitation to Enfield, in this State, to practise medicine. He soon, however, was attacked with typhus, and on recovering, was summoned to attend his father in his last illness. He returned to Enfield in March, 1812. and removed thence to Milford in March, 1813. While in Milford, it is reported that he spent much of his time in the fields studying botany, his professional business being very limited. Dissatisfied with the place, he left it in November, 1816, and settled in Middletown Upper Houses, whence he removed in September, 1818, to the city of Middletown. While there, he published in 1820, in Silliman's Journal of Science, a medico-botanical paper "On the Ergot of Rye." He became the intimate friend of that learned and distinguished physician, the late Thomas Miner, M.D., of Middletown. The two, in 1823, published a volume

entitled "Essays on Fevers and other Medical Subjects." It consists of two parts; the first, purporting to be written by Dr. Miner, contains fifteen essays, the longest being one "On the Resolution and Treatment of Fevers." Some of these fifteen essays (not including the one named) are believed to have been furnished by Dr. Tully. The second part, by Dr. Tully, contains three papers on the Fevers of Middletown and Chatham, and one entitled an "Analysis of 'an Account of an Epidemic Fever of Virginia, by John L. Miller.'" There were unity of purpose and harmony of views on the part of the authors, and the book throughout is written with decided ability. It contained new and startling opinions, enforced by a strong array of facts and arguments, and was like a bomb-shell thrown into the camp of the profession. It treated old and cherished prejudices, and the current methods of practice, with little ceremony, sometimes with caustic severity. The authors maintained that the fevers of the day had decidedly typhoid tendencies; that anti-phlogistic and reducing measures were contra-indicated; and that a free use of stimulants, such as brandy, opium, cinchona, cantharis, capsicum, &c., was required. Opinions as to the merits of the work, which was extensively read, were divided. A controversy concerning the nature of the prevalent fevers, and the comparative excellence of the new and old practice, was begun in this State. It lasted for several years, and was not always conducted in the most tolerant spirit. As a consequence, a prejudice was engendered against the authors of the book, which neither survived. But whatever opinion we may entertain as to the soundness of the views put forth in the volume, there can be no doubt about its substantial value. It is one of those books which will bear to be read more than once.

In June, 1822, Dr. Tully removed to East Hartford, where he was residing when (in July, 1824) he was appointed Professor of Theory and Practice in the Vermont Academy of Medicine, Castleton. He accepted, and in January, 1826, went to Albany and formed a professional partnership with his Castleton associate and intimate friend, Alden March, M.D. Here his business was prosperous, more so than it had ever been before. He spent term time in Castleton, and in 1829 and afterwards, discharged the additional duties of lecturer on Materia Medica and Therapeutics, giving two courses in the year. In 1835, a spring term was added to the autumnal. He continued his connection with the Vermont Academy till 1838, when he resigned.

While residing in Albany, Dr. Tully published in the January and April numbers of the American Medical Recorder for 1828, his "Medical Prize Essay" on Sanguinaria Canadensis. It is a paper of eighty-four pages, alike distinguished by original observation and thorough and elaborate medical scholarship. It may be pronounced one of the most important contributions to our vegetable indigenous materia medica which has yet been offered to the public.

In 1829, Dr. Tully succeeded Eli Ives, M.D., as Professor of Materia Medica and Therapeutics in Yale College, and in May, 1830, removed his family to New Haven. The different periods of the year in which the terms were held, enabled him to continue his lectures in Castleton. During his residence in New Haven, everything for a time seemed to move on satisfactorily. His distinguished reputation secured him many friends and a reasonable share of professional business. In January, 1832, he published in Silliman's Journal, "Results of Experiments and Observations on Narcotine and Sulphate of Morphine," a valuable paper of seventeen pages. This article was republished in the Boston Medical and Surgical Journal, together with certain additional matter. Several other communications on articles of the Materia Medica, from the same pen, appeared in the last named Journal, during the same year, 1832. In 1833, he was invited to a professorship in the Medical College of South Carolina, which he declined.

Dr. Tully's last course of lectures was delivered in New Haven in the winter of 1840–41. Soon after he resigned. Subsequently he spent nearly a year in South Carolina, without his family. In the spring of 1851, he removed to Springfield, Mass., where he died, February 28, 1859. His remains were interred in the Old Cemetery, New Haven, by the side of his wife and several of his children. His wife Mary, a daughter of the Rev. Elam Potter, of Enfield, Conn., an excellent woman, though a great sufferer from ill-health, died September 8, 1853. They had ten children, three of whom, two daughters and one son, survived their father.

While residing in Springfield, Dr. Tully gave to the world his great work entitled "Materia Medica or Pharmacology and Therapeutics," in two thick volumes. On this, his reputation as a medical scholar must finally rest. We owe its publication to the enterprise, perseverance, and unselfish devotion to science, of Jefferson Church, M.D., of Springfield. Dr. Church assisted in the preparation of the manuscript, superintended the printing, and assumed the entire pecuniary responsibility of the undertaking. The work loses much of its value in not being completed according to the original plan. As it is, in its present incomplete form, with its many serious defects, literary and other, it does not do full justice to the author. Its imperfections, however, are all forgotten by him who has the courage to read it and the capacity to understand it. It is, indeed, a monument to the industry, learning and ability of the writer. Enough may be got out of it to furnish capital for a score of ordinary authors. It is not calculated to be popular; it is too much a work of principles and classification. But let it be once mastered, and it will richly repay whoever has made it a study. Whether or not the reader yields his assent to all its theoretical and practical views, he cannot but acknowledge the genius of the writer, his profound knowledge of medicine, and the importance of his labors for its advancement.

Dr. Tully was doubtless the most learned and thoroughly scientific physician in New England. If his equal may be found anywhere, I am ignorant of the fact. He had a large and costly library, and was a diligent and methodical student through life. His knowledge of botany was extensive and very accurate. Chemistry, particularly organic and pharmaceutical chemistry, he understood probably better than any one in this country. He was acquainted with physiology, and was familiar with the literature of those branches of his profession which he did not practise. Indeed, his studies took a wide range. He knew Latin and Greek well, at least so far as these languages are employed in natural science. And all his knowledge was singularly minute and exact. He assisted Dr. Webster and Prof. Goodrich in the scientific department of their dictionary, furnishing the definitions of the terms of Anatomy, Physiology, Medicine, Botany, and some other branches of natural history. Periodical and other current literature, including works of fiction, received a share of his attention.

Dr. Tully was an able and interesting lecturer. His tall, manly form, broad, square shoulders, large head and prominent eyes, served to fix the attention. He spoke distinctly and without gesticulation, reading from his manuscript in a loud, almost stentorian voice, with a uniform and slightly nasal tone, and assured air. The novelty and boldness of his views; his skilful elaboration; the vigor of his expressions; his merciless criticisms of authors; his sarcasms and denunciations, combined with a positive manner, secured the attention of all. His more enthusiastic pupils thought him the greatest man alive; hung upon his lips trustfully and gratefully, and pronounced all other teaching worthless in comparison. Some of his undiscriminating admirers not only adopted his opinions, but caught the peculiarities of his manner, and even imitated the tones of his voice. The younger students frequently complained that his matter was too scientific and his language too technical; but these complaints grew less frequent as the course of instruction advanced. His private pupils and chosen disciples were thoroughly trained, and in several instances have become distinguished scholars.

Dr. Tully was an intelligent and discriminating practitioner. He investigated his cases thoroughly, usually arrived at a correct diagnosis, drew inferences cautiously, and grounded his opinions on the facts before him. His unrivalled knowledge of materia medica, particularly indigenous materia medica, and his familiarity with all the new remedies, especially the new organic compounds, gave him a great advantage in prescription. His resources in a difficult case were, so far as I know, unparalleled. He was somewhat famous for the treatment of obstinate chronic cases—cases that had worn out the patience of others. Such cases were sometimes put into his hands by attending physicians for his exclusive management. And he not unfrequently succeeded in curing dis-

cases which had defied the skill of the ablest and best practitioners. He was fond of heroic medicines and heroic treatment, and incredulous as to many weak remedies in common use. Alcohol, morphine, quinine, strychnine, veratrum, arsenic and the like, were favorite articles; while he heaped unmeasured abuse on blood-letting, cathartics, antimony, the alkaline salts, and the antiphlogistic and reducing practice generally. But he was not undiscriminating either in praise or censure. In all cases and in every capacity, he was self-reliant if not self-sufficient, firm in the faith he had himself wrought out, discarding platforms, regardless of authority, and unmindful of clamor. When he had once formed an opinion, he was unyielding, sometimes headstrong, as strong men are apt to be. In his intercourse with his patients, he had a perpendicular way of doing things. His directions must be followed, and friends or nurses must not interfere. He would not stop to argue and explain, paid no attention to the whims and fancies of old women, and quietly took his leave when he thought confidence was wanting. For these reasons, he was not what is known as a popular physician.

In his intercourse with medical men, Dr. Tully was honorable and manly. He would not betray confidence; would not take an unfair advantage of a professional rival. Quackery, whether in or out of the profession, he despised. No doubt he had strong prejudices; was censorious and suspicious, possibly jealous. He was dissatisfied with the world; may have been tinged with misanthropy; but no act of meanness or low malice tarnishes his fair name. Most of his business, in the last years of his life, was in the way of consultation. He loved to meet his medical friends and discourse on his favorite topics. His conversations were in the style of monologue more than dialogue, and reminded one of his lectures or essays. He talked right on, as though compelled by the overflow of his ideas. Vexatious questions and interruptions annoyed him. In talking, as in writing, he was magisterial, exuberantly, if not ambitiously, learned, discursive and diffuse. He had a critical knowledge of words, and loved them, seemingly, for their own sake. An elongated word was, in his mouth, "sweetness long drawn out." If a man had three christian names and two titles, he would repeat them all. He had not the art of abridgment and condensation. I have heard his wit spoken of, but it seemed to me he had none.—I make these criticisms because they are necessary in giving a full-length, truthful portrait of Dr. Tully. Sum up all his imperfections, and deduct them from his merits, and there is enough left to make a man of—a whole man, and (may I not add?) a great man.

Dr. Tully was one of the most indefatigable of men. He was a diligent observer, orderly and systematic in everything, and never missed an opportunity to replenish his stores of knowledge. He carried in a pocket-book, made for the purpose, slips of fools-

cap paper (he called them octants), on which he wrote, at the time, whatever came under his notice. Whether he was reading or visiting a patient, conversing with a friend, riding or walking or sitting, his note book was always at hand. At short intervals, he assorted these notes, each having its running title, and put them away under proper general headings, as materials for his lectures, or for more formal essays. A very large amount of valuable manuscript, thus collected, is in the hands of his executor. He was eminently a matter-of-fact man, took delight in minute investigations; but in all his inquiries, his aim was to illustrate principles and discover general laws. In his mind was combined great love of detail with extraordinary powers of generalization—an unusual combination.—*Medical Communications of the Conn. Medical Society.*

## Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. BY FRANCIS MINOT, M.D., SECRETARY.

JUNE 24th. *Cancer of the Rectum.*—Dr. HENRY G. CLARK reported the case.

The patient was a man 50 years old, who had suffered for three or four months, as he said, from piles. He had bleeding, pain, and small, loose dejections. Shortly after entering the hospital he exposed himself to cold, and was attacked with a chill, headache and pain in the left wrist and shoulder. Redness appeared over the metacarpal bone of the little finger, and extended to the arm and shoulder. Delirium set in, followed by sinking and death. The rectum was rough, but not hard to the feel, and a fringe-like growth from the mucous membrane extended about three inches from the anus.

Dr. ELLIS observed, that at the autopsy the mucous membrane of the rectum was found to be destroyed over a surface about two inches in diameter. Rising slightly above the surface of the membrane around the margin of the shallow excoriation were short villous processes and loose shreds, floating up from the other portion of the diseased part. The new growth was of a whitish color, and quite soft. No hardening of the tissue beneath, but in the latter was a small abscess, without a well-marked limiting wall. The portions of the growth in the rectum examined by the microscope were found to be composed of very small elongated granular corpuscles, without nuclei or nucleoli.

JUNE 24th. *Alarming Effects of a large Dose of Essence of Checkerberry.*—Dr. W. E. TOWNSEND said he had been called at a late hour in the night to a woman who had been for some time in an insensible condition after drinking six ounces of essence of checkerberry. She was apparently in a sound sleep, but could not be roused. There was no stertor. The pupils were contracted. After being made to inhale the vapor of ammonia she roused sufficiently to take an emetic, which, however, did not operate, and she immediately relapsed into unconsciousness. After two hours, a powerful galvanic battery was ap-

plied, from the effect of which she vomited, but such was her condition that she was nearly strangled by the contents of the stomach lodging in the fauces. She then appeared to be sinking, but in the course of an hour showed signs of re-animation, and gradually recovered, having been insensible for ten hours.

Dr. Ellis remarked that substances sold under the name of essences were often factitious.

Dr. Bacon said that artificial essences were made to a large extent from compound ethers, which we might expect to be very active.

Dr. Townsend said that the article taken by the patient was said to have been manufactured in Boston, of oil of checkerberry and alcohol.

Dr. Hooker mentioned the case of a young woman who swallowed some toddy containing a large amount of oil of checkerberry. She soon became very stupid, and afterwards vomited. The result was a severe and very nearly fatal attack of gastritis.

July 8th. *Tuphlo-enteritis; Abscess of the Iliac Fossa; Necrosis of Ilium and Trochanter.*—Dr. Storer said he had been called to a man who was supposed to have rheumatism. He was emaciated, had diarrhœa, and complained of great pain in the back and hip, extending down the thigh. The right leg was drawn up. There was tenderness in the right groin, and afterwards fulness there, which, however, subsequently disappeared. Dr. Storer thought there was a formation of pus, in which opinion Dr. H. J. Bigelow, who saw the patient in consultation, agreed. The dejections were examined, but contained no pus. The man failed rapidly, and died.

Dr. Ellis reported the autopsy. In the right iliac region was an abscess, which occupied the convexity of the ilium, and extended upward behind the lower lumbar vertebræ, and downward behind the trochanter major. The crest of the ilium and the trochanter were denuded and rough. The tissues forming the wall of the abscess were blackened. No disease of the spine.

The lower portion of the right edge of the omentum was adherent in the neighborhood of the cœcum, and the latter was firmly attached to the superior wall of the abscess, the appendix lying beneath it. The latter was bent at an abrupt angle about two inches from its commencement, and largely open, looking as if a portion of the wall had been destroyed. No foreign body was found.

In the adherent wall of the cœcum was an opening of considerable size, through which the thin, greenish contents of the abscess escaped on pressure. The absence of ulceration of the mucous membrane around, and the whole appearance of the opening, indicated that the perforation had taken place from without inwardly.

The other organs were normal.

We have here several lesions, and it will certainly be asked which was primary.

Bearing in mind that the crest of the ilium and the trochanter major were similarly affected, it does not seem probable that these distinct points would be simultaneously attacked in a person enjoying perfect health. Neither is it reasonable to suppose that periostitis, or superficial inflammation of the bone at one point, was the primary cause of the abscess, which afterwards extended and attacked the bone at a distance. If the abscess were, in one instance, the cause, it might, equally well, have been so in both. But, assuming this to be the case, we have other elements to consider, viz., the changes in the appendix

and cœcum. The character of the perforation in the latter, and the subsidence of the tumor a short time before death, leave no doubt that the abscess opened into the intestines at that time. The ulceration of the appendix remains. Taking into consideration the above particulars, the suddenness of the attack and the previous good health of the patient, and knowing that the appendix may become the seat of inflammation and perforation in the healthiest person, and finding in this lesion a sufficient cause for all those that accompanied it, we have a right to assume that tuphlo-enteritis was the primary disease. Viewed in this light, the case is remarkable for its duration, which probably may be attributed to the fact that the peritoneal inflammation was limited to the immediate neighborhood of the cœcum.

July 8th. *New Anæsthetic Agent—Kerosolene.*—Dr. Bowditch presented several bottles containing a liquid alleged to possess anæsthetic properties, and read the following letter from Mr. Joshua Merrill, of South Boston, describing it:—

"Gentlemen,—The article I now present for your consideration is from a class of volatile hydro-carbons derived from the decomposition of coal at low temperatures, which decomposition produces *liquid* products instead of prominent *gases*. The article before you is the most volatile of these liquids, carefully separated by distillation, and then purified by treating it with those chemicals which best remove all foreign organic matter from it. It is, I believe, the lightest, specifically, of all known liquids, its specific gravity being from 615 to 635, water being 1000 (ether being from 713 to 715). It is, I believe, chemically a pure liquid hydro-carbon. Just its equivalents of carbon and hydrogen I am unable to give; in fact, I believe it has never been subjected to analysis. I have presented this sample with the view of interesting the medical gentlemen connected with the Society, in its peculiar property of producing anæsthesia. My attention was first called to its anæsthetic power, by some of the workmen employed in its manufacture becoming partially or wholly insensible from inhaling its vapors. I have personally often been under its influence in a small degree—enough to produce peculiar lightness of the head, and weakness of the limbs. In all cases which have come under my observation, those persons who have inhaled it rapidly recovered when brought to the open air; in from ten to fifteen minutes perfect restoration ensues, and the men are able to resume their employment. It is, like ether, explosive when its vapors are largely mixed with atmospheric air; the liquid readily ignites, rendering care necessary when artificial light is used during experiments. Its cost is comparatively small—one dollar per gallon will, I think, furnish it in quantities. In conclusion, if I have brought to your notice a cheap and *safe* anæsthetic agent, my object has been accomplished, leaving to the Society those experiments necessary to establish its value, or otherwise.

I am, respectfully yours, Joshua Merrill,
*Sup't D. K. O. Co.*"

Dr. H. J. Bigelow remarked, that in reference to any new anæsthetic, several points required consideration, and among these he would mention some in reference to the agent now submitted to the Society, and which he now saw for the first time. First, its efficiency; of this he was satisfied by the few inhalations he had just made from the bottle. He believed it as strong, at least, as ether. Second, it is

tasteless as water, while its vapor is in no way irritating. On the contrary, its flavor is agreeable, and resembles a dilute chloroform, with a whiff of coal tar or creosote. What is remarkable, this odor, which is quite evident as the fluid evaporates, leaves, when it is dry, not a trace, either of the chloric ether smell or of the creosote, being in this respect wholly unlike ether or chloroform. It is also abundant and cheap. It remains to be settled whether this agent is productive of headache and other unpleasant symptoms, like amylene, or whether it be, even in rare instances, fatal without warning, like chloroform. But this last is unlikely, inasmuch as the agent seems to be dilute, and not concentrated like chloroform. Nausea is, of course, a necessary accompaniment of certain cerebral disturbance. If this is an anæsthetic of the character it seems to be, at once effectual, agreeable, tasteless, without subsequent flavor or odor, it will supersede ether; and it has certainly, at this moment, a remarkable air of promise.

On motion of Dr. Bowditch, the new agent was referred to the Hospital Surgeons and Dr. Bacon for experiment, and on motion of Dr. Storer, Dr. Bigelow was requested to draw up a report on the results of their investigations.

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## THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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BOSTON: THURSDAY, AUGUST 22, 1861.

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Kerosolene.—It is but a little more than a month since this new anæsthetic was introduced to the medical public by a communication in our pages from the first professional experimenter of its powers, Dr. H. J. Bigelow, who, with the devotion of a true lover of science, made the first experiment upon himself. This was on the evening of the 8th ult., after the meeting of the Medical Improvement Society. Dr. Bigelow the next day reported the results of his personal experience with this interesting fluid, in anticipation of the fuller report of the Committee of which he is a member, in order that the medical public might at once avail itself of an agent which presents so many attractive properties. Already we see the fruit of this announcement in communications to various medical journals. Two weeks since, the New York *Medical Times* contained an interesting article by Dr. Cutter, of Woburn, detailing the results of experiments with kerosolene made by himself and other members of the Middlesex East District Medical Society, and expressing, on the whole, a favorable opinion of it. We find it occupying a large space in the *Chicago Medical Examiner* for August—so promptly do our professional brethren, even in this country of "magnificent distances," seize upon anything which holds out any new promise of relief to the sufferings of poor humanity. In the *Examiner*, Dr. Dickinson gives all the facts in his possession concerning kerosolene and its first presentation by him to the profession through the Boston Society for Medical Improvement. In another article, Dr. E. Andrews, Professor of Surgery in Lind University, reports a trial of its anæsthetic powers, with a result much like

those given by Dr. Bigelow in the first experiments. As the report of the original Committee to whom the subject was referred is not yet given to the world, we re-publish an extract from Dr. Andrews's paper, feeling that every such experience is of weight in forming a just appreciation of the value of an agent of such power. We would express the hope that the Committee may not delay their report much longer, otherwise it will be anticipated by the results of individual observation.

"On the 19th of July, Dr. Dickinson, of St. Louis, called upon me and presented a can of the fluid, with a request that it might be tested. As there happened to be present at the moment a patient of the Chicago Dispensary, to be sounded for stone in the bladder, I determined to try the article at once. Accordingly, the patient was laid upon a sofa, and at my request, Dr. Dickinson commenced the administration. It was given by sprinkling upon a handkerchief in the same manner as chloroform, taking care to secure an abundant access of air. The patient seemed to take it with ease and comfort, and for several minutes everything went on well. The pulse was full, and somewhat accelerated, but it did not intermit or flag in any part of the procedure. At length the anæsthesia began to come on, when the countenance appeared flushed, and the eye a little unnaturally open and staring. In a short time the patient made an effort to rise up in a sitting posture, and was immediately attacked with moderate convulsions. The administration was discontinued until these effects subsided, and then carefully resumed, but the result was another attack of the convulsions. Again, suspending the inhalation until the muscular excitement ceased, a third effort was made to proceed, but this was also checked by a third attack of the spasms. Great as was my desire to test the article, I did not deem it prudent to persist in the face of such warnings, therefore, laying aside the kerosolene, the anæsthesia was finished with a mixture of ether and chloroform. No further convulsive motions occurred. Both the pulse and the respiration were well sustained during the inhalation of the kerosolene, the only exception being that during the convulsion a moderate check of the respiratory movement occurred, in consequence of the rigid contraction of the muscles of the chest. The result was a momentary dusky redness of the face at each convulsion, similar to that which occurs in epilepsy."

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Dr. Jackson's Second Letter to a Young Physician.—We take the following from an interesting and kindly notice of Dr. Jackson's second Letter to a Young Physician, in the last number of the *American Journal of the Medical Sciences*. After referring with all charity to Dr. Holmes's "Currents and Counter-Currents," and speaking of the license which poets claim and receive as their prescriptive right, the writer continues:—

"Some such idea, we fancy, was in the mind of Dr. Jackson when he resolved to compose this letter; for, starting from a seeming acquiescence in the spirit of the lecture, and suggesting that Dr. Holmes was misunderstood by those who regarded him as denying the utility of our art, he proceeds to state the question 'whether the sick are more helped or hurt' by medicinal drugs? and then, after reminding us that some very eminent and very experienced physicians have been sceptical on the subject, he glides into a notice of the abuses in the employment of drugs and a eulogy of the sanitary powers of Nature. Having paid this tribute to courtesy and kindness, he exposes the fallacy of reasoning and the more than extravagance of statement in Dr. Holmes's lecture, and concludes that its arguing for the disuse on account of the abuse of medicines is neither logical nor wise. Indeed, he is convinced that his friend, Dr. Holmes, is of the same opinion; but, as if to leave him no pretext for not being so, he proceeds to enumerate some of the more striking illustrations of the value of drugs in the treatment of disease. Of mercury, antimony, arsenic, cinchona, and opium, he has much to say that corroborates the settled judgment of the profession concerning

their virtues, and as to the last he assures us that without it he would hardly be willing to practise medicine. Nor does he recommend these medicines in trifling doses. On the contrary, he recognizes circumstances which justify the prescription of mercurial preparations until the mouth is made sore; the emetic use of antimony at the commencement of typhoid fever is a method almost peculiar to himself, and one for which he claims very great value; he also advocates it in the forming stage of nearly all inflammations; ipecacuanha and squills he hardly subordinates to this potent remedy in appropriate cases, and adds that other medicines might be mentioned more or less similar to antimony, &c. Along with opium he classes conium, hyoscyamus, aconite, and the anæsthetics as having each its appropriate sphere of usefulness, and as to quinia, he is hardly behind the boldest of those who use it in heroic doses. As arsenic, he remarks, 'has a bad character with many, I feel bound to testify that it is as mild and gentle in its effects on the human body as almost any efficient medicine ever employed by us.' Iron he would not dispense with, nor bismuth, cascarilla, quassia, or cod-liver oil. Of cathartics, he remarks: 'It would seem that we could hardly live without the use of cathartics—they are necessary;' and of depletion he is not afraid to make the unfashionable remark, that 'the use of the lancet should not be altogether abandoned.' On the contrary, he prescribes it in the thoracic inflammations even of young children, and in the forming stage of acute diseases generally. In acute rheumatism, indeed, he does not recommend it, but employs a still more active and perturbative agent, colchicum, requiring it to be repeated every four or six hours, until it brings on copious discharges. Guaiacum he lauds in the subacute form of this disease. 'There are *many more* medicinal drugs, too good to be expunged from the list of the *materia medica*, which,' says Dr. J., 'I might mention. Among the more powerful of these are elaterium, digitalis, diluted hydrocyanic acid, and iodine;' and, among the milder drugs, 'spirit of nitric ether, the compound spirit of ether, the solution of acetate of ammonia, valerian, and assafœtida, old friends, whom I would not like to part with. The same may be said of mustard, the water of ammonia, croton oil, chloroform, and cantharides, for external use.'

"And this is a specimen of the materia medica of a physician who appears as the ally and champion of the witty orator who, after securing opium, 'a few specifics which our art did not discover, and it is hardly needed to apply,' (?) with wine and anæsthesia, would have us throw into the sea all the rest 'of the materia medica as now used,' if he were not restrained by a charitable regard for the health of the fishes! Well might Dr. Holmes exclaim, '*non tali auxilio nec defensoribus istis!*' But well may we rejoice that in his own calm yet authoritative way, Dr. Jackson should have furnished so perfect an antidote to the inconsiderate and incorrect estimate placed by his colleague upon medicine. Even more must we be gratified to find so able an advocate of the energetic treatment of disease at a time when many among us allow themselves to be ruled by the popular prejudice which an absurd medical heresy has engendered, and are tempted to withhold the active remedies, whose virtues were demonstrated centuries before globulism was invented, and barren scepticism, or mere *fainéantise*, was dignified with the name of scientific expectation."

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MEDICAL CADETS FOR THE U. S. ARMY.—Acting Surgeon-General Wood publishes the late Act of Congress in regard to the addition to the Medical Staff of the Army, of a corps of Medical Cadets, and states that applications must be made to the Surgeon-General at Washington. In addition to testimonials of good moral character and sound physical condition, the applicant must state the date and place of his birth, place of residence, period of medical studies, and enclose the certificate of the Dean of the College (or other satisfactory evidence) that he has attended one full course of lectures in a medical school. The following is a copy of the Act itself:—

"SECT. 7. *And be it further enacted*, That there be added to the Medical Staff of the Army, a corps of Medical Cadets, whose duty it shall be to act as dressers in the general hospitals and as ambulance attendants in the field, under the direction and control of the medical officers alone. They shall have the same rank and pay as the military cadets at West Point. Their number shall be regulated by the exigencies of service, at no time to exceed fifty. It shall be composed of young men of liberal education, students of medicine, between the ages of eighteen and twenty-

three, who have been reading medicine for two years, and have attended at least one course of lectures in a medical college. They shall enlist for one year, and be subject to the rules and articles of war. On the fifteenth of the last month of their service the near approach of their discharge shall be reported to the Surgeon-General, in order that they may be relieved by another detail of applicants."

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Great Endurance after Severe Wounds.—Dr. A. B. Shipman, in a letter to the New York *Medical Times*, refers to the fact, observed by himself and other surgeons, that the wounds received by our troops in the late battle at Bull Run were, in a remarkably large number of instances, among the retreating regiments, unaccompanied by the severe results which are ordinarily produced by similar causes. So strongly was this impressed on his mind, that he makes the assertion that "an equal number of wounds of the same character in civil life, under the care of faithful nurses and skilful surgeons, and with all the appliances of civilization and luxury, could scarcely have done as well." The absence or disregard of physical pain was also striking—the faculties seeming entirely absorbed in the mental and moral causes in operation. He mentions two instances of wounded men walking 30 miles on foot, and without much suffering—one having had a musket ball pass through one thigh and nearly through the other, and wounding the scrotum, and in the other a ball had gone through the calves of both legs. Another reached Fort Ellsworth on Tuesday night after the battle, a Minié ball having passed through both cheeks, fracturing the lower jaw on each side and cutting the tongue nearly off, and he having eaten nothing since Saturday. His wound was dressed, and he was sent on to Washington. The rain to which many of the wounded were exposed on the day after the battle, in their retreat, was said to be a great comfort to them.

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Health of Providence, R. I.—During the month of July last, the number of deaths was 92, being 10 less than in July, 1860. Of this number, 49 were under 5 years of age. Cholera infantum was the cause of 11 of these deaths, and consumption of 17. Last year, in July, the mortality from cholera infantum, diarrhœa and dysentery was 30; this year, only 16. During the first six months of the present year, 882 children have been born in Providence—61 more than in the first half of last. During the same time, this year, there have been 470 deaths. The population of Providence being 50,666, the births and deaths stand as follows to the population: births, 1 in 57.4; deaths, 1 in 107.8.

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Homœopathy Renounced.—Dr. John C. Peters, of New York, late one of the editors of the North American Journal of Homœopathy, published in that city, has resigned his editorship, a valedictory from his pen appearing in the February number of that work. In this valedictory he does not speak of any recent change of views as the cause of his resignation, but says there are other fields of labor more congenial to his tastes; that he is and ever has been "opposed to all exclusivism and one-idea-ism" in religion, politics, science, and his much-loved profession, and that he has "always endeavored to incorporate in homœopathy all sound advances in medicine." The May and August numbers of that journal present us nothing further on the subject; but in the *American Medical Times* for August 17th, Dr. Peters publishes a letter in which he more fully states his position, and says, "I now most distinctly do not believe or practise according to any one medical dogma or exclusive system." He further says, that in commencing the study of medicine he had entertained the hope that "homœopathy, in its future and rational development, would supply all that was deficient in medicine;" but still he was not unmindful of the advances constantly making in regular practice. With regard to infinitesimal doses, he says he has never been a convert to the use of them; "they have been so repugnant," he adds, "to every fraction of common sense which I possess, that I have always felt absolutely degraded when making what I conceived to be necessary trials with them"; these trials, moreover, had never been attended with satisfactory success. So, too, with the dogma *similia similibus curantur;* "it seemed," he says, "so utterly opposed to reason, that it was often with difficulty that I could force myself to practise according to it." His letter concludes with the statement that hereafter, however painfully and reluctantly, he must endeavor to cast his lot "with other friends, other theories, and other practice."

MODE OF FORMATION OF THE RATTLE OF THE RATTLESNAKE.—At a recent meeting of the Boston Society of Natural History, the President, Prof. Jeffries Wyman, made the following communication on the mode of formation of the rattle of the rattlesnake.

"In the fœtal specimen examined, the scales cease toward the end of the tail, and the unscaled portion is covered by thickened cuticle, the rudiment of a rattle, which must fall off; as the animal grows, the last three vertebræ are covered with hardened cuticle arranged in ridges; as growth continues, this covering is displaced, a new layer forming underneath it, and the old slipped backward over one ridge in a manner not well determined; this is in turn displaced by a new layer beneath, pushed backward over a single ridge, and so on indefinitely. An interesting point yet to be settled, is, whether the cuticular caudal rings are set free at the time of moulting. That there is no definite relation between the age of the animal and the number of rattles, he said, was shown by specimens over six feet long having only two rattles, and others of eighteen inches with six or seven."

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INJURIES CAUSED BY LIGHTNING.—Three cases are published in late numbers of the London *Lancet*, which go far to show that, contrary to the generally received opinion, metallic substances about the person are a protection, rather than a cause of danger, when individuals are struck by lightning. Dr. Duncan relates one case:—A lady had taken shelter under a large tree, the trunk of which was struck 100 feet from the ground, the bark being torn off down to about a level with the woman's head. The lightning then, leaving the tree, seemed to have passed around the wirework in the front of her bonnet, and thence down the steel plate in the front part of her stays, to her feet and into the ground. The skin of the forehead and face was blistered, the sides and front of her neck and chest charred, both thighs and knees burnt inside, and the right foot blistered, her under linen and shawl taking fire. Her arms, hands, abdomen, and legs from the knees to the feet, as well as her head and the back part of the body, escaped injury. She was rendered insensible, but was soon in a fair way of recovery.

Mr. Brent, the deputy coroner for Middlesex, gives the other two cases, which, it is remarkable, considering their similarity, happened within a fortnight of each other. The first was that of a man and his wife standing under one umbrella, beneath two elm trees. The husband, whose life was saved, says they were about leaving, and he recollected nothing more till he found himself lying by the side of his dead wife. The lightning had struck his neck on the right side, had passed along a metal watch-guard which he wore, blackening his right brace near it, to the watch, then to his right pocket and purse containing several gold and silver coins, indenting and blackening them, seared the right thigh, and emerged by a hole in his clothes above the knee. He was probably insensible about a quarter of an hour. His wife had no metallic substances in her dress, and the lightning had passed from her body to the ground through her right boot. Mr. Brent's other case was that of two men under an umbrella—a flash of lightning striking the ground near by, and seeming to glance thence towards them, causing them both to fall. The umbrella, with steel ribs, was shattered to pieces, and one of the men instantly killed, a brownish mark being observed from his head, which was greatly discolored, down the body to the soles of his feet, and his clothes were torn. He had no watch or watch-guard about his person, nor metallic substance in his pocket. The survivor had on a watch and a steel watch-guard, the latter of which is spoken of as being "completely destroyed," and along its course a black line was seen on the shirt. His lower limbs were paralyzed by the shock, and his boots torn to pieces. He soon recovered.

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Letters from Mauritius inform us of the death of Dr. Mailly, laureate of the hospitals of Paris, from the inhalation of chloroform. At the expiration of his service as interne, M. Mailly went to live at the Mauritius, where he occupied a very honorable position. He was suffering from toothache for some days; he went to a dentist with a bottle of chloroform, which he administered himself. Upon a signal given by him, the dentist extracted the tooth; but very soon the operator saw that Mailly was dead.—*La Révue Médicale Francaise et Etrangère.*

TIN FRACTURE SPLINTS.—For a long time we have been in the habit of using tin instead of wood for fracture splints. This material is so far superior to all others used for the purpose, that we are greatly surprised that manufacturers of patented splints have never adopted it instead of wood. It is lighter, stronger, far cheaper, and can be moulded into any desirable shape by the surgeon. Thus, as is often the case in compound fractures, it being desirable to have some particular part exposed, the surgeon may go to any tinner, and procure, at a trifling expense, the splints, with the necessary openings, which cannot be the case with the use of wood. *Any* tinman can easily make the splints, but few workmen can make them properly shaped of wood. We would particularly commend them to young practitioners, who may not be able to equip themselves with the more costly appliances, in the commencement of their practical careers.—*San Francisco Medical Press.*

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ACTION OF THE POISON OF VENOMOUS SERPENTS ON THEMSELVES.—A memoir on this subject, by M. Guyon, was recently read before the French Academy of Sciences. The author had experimented with venomous serpents from Europe, Africa and America, and had come to the conclusion that the poison of these reptiles has no injurious effect upon themselves; neither upon the one which furnishes it nor the one into which it is introduced, even though the latter be of a different species.

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WE learn that Edward Hitchcock, Jr., M.D., son of President Hitchcock, has been elected Professor of Hygiene and Physical Culture at Amherst College, in place of Dr. Hooker. Dr. Hitchcock is a regularly educated physician, was the best gymnast of his class while in college, and appears eminently fitted in every way for the position.

## VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, August 17th, 1861.

DEATHS.

| | *Males.* | *Females* | *Total.* |
|---|---|---|---|
| Deaths during the week, | 46 | 56 | 102 |
| Average Mortality of the corresponding weeks of the ten years, 1851–1861, | 51.6 | 49.2 | 100.8 |
| Average corrected to increased population, | .. | .. | 112.38 |
| Deaths of persons above 90, | .. | .. | .. |

*Mortality from Prevailing Diseases.*

| Phthisis. | Chol. Inf. | Croup. | Scar. Fev. | Pneumonia. | Variola. | Dysentery. | Typ. Fev. | Diphtheria |
|---|---|---|---|---|---|---|---|---|
| 12 | 37 | 0 | 3 | 3 | 0 | 1 | 0 | 0 |

METEOROLOGY.

*From Observations taken at the Observatory of Harvard College.*

| | | | |
|---|---|---|---|
| Mean height of Barometer, | 30.110 | Highest point of Thermometer, | 79.0 |
| Highest point of Barometer, | 30.318 | Lowest point of Thermometer, | 48.0 |
| Lowest point of Barometer, | 29.740 | General direction of Wind, | W.S.W. |
| Mean Temperature, | 65.0 | Am't of Rain (in inches) | 3.12 |

BOOKS AND PAMPHLETS RECEIVED.—The Pathology and Treatment of Venereal Diseases: including the Results of Recent Investigations on the Subject. By Freeman J. Bumstead, M.D., Lecturer on Venereal Diseases at the College of Physicians and Surgeons, New York, &c. Philadelphia, Blanchard & Lea, 1861. —A Treatise on Diseases of the Joints. By Richard Barwell, F.R.C.S., &c. Philadelphia, Blanchard & Lea, 1861.—The Morbid Effects of the Retention in the Blood of the Elements of the Urinary Secretion. By William Wallace Morland, M.D. Being the Dissertation to which the Fiske Fund Prize was awarded, July 11, 1860. Philadelphia, Blanchard & Lea, 1861.—Transactions of the State Med. Society of Indiana.

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MARRIED,—At Cambridge, 15th inst., Jeffries Wyman, M.D., to Annie Williams, daughter of B. D. Whitney, Esq.

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DEATHS IN BOSTON for the week ending Saturday noon, August 17th, 102. Males, 46—Females, 56.—Accidents, 2—apoplexy, 1—disease of the bowels, 1—hæmorrhage of the bowels, 1—inflammation of the bowels, 1—congestion of the brain, 1—disease of the brain, 2—cancer, 2—caries of bone, 1—cholera infantum, 37—cholera morbus, 1—consumption, 12—convulsions, 2—cyanosis, 1—cystitis, 1—debility, 2—diarrhœa, 1—dropsy, 1—dropsy of the brain, 3—dysentery, 1—bilious fever, 1—scarlet fever, 3—insanity, 1—intemperance, 3—gangrene of the lung, 1—inflammation of the lungs, 3—marasmus, 5—paralysis, 1—premature birth, 2—puerperal disease, 1—scrofula, 1—caries of the spine, 1—disease of the throat, 1—tumor, 1—whooping cough, 2—unknown, 1.

Under 5 years of age, 63—between 5 and 20 years, 6—between 20 and 40 years, 14—between 40 and 60 years, 7—above 60 years, 7. Born in the United States, 84—Ireland, 15—other places, 3.